

ABSTRACT

[0037] A direct-air, gas-fired air makeup heating unit is disclosed which provides reduced nitrogen dioxide emissions with a higher temperature rise. The unit includes a combustion chamber with a protective chamber downstream of the combustion chamber. At high firing intensity, the flame exits the combustion chamber and enters the protective chamber. The resulting flame is therefore protected from excess air moving around the combustion chamber, thereby lowering nitrogen dioxide emissions even at such high firing intensities.